

# *Information Bulletin*

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## *Grade 6 Mathematics 1997-98*

AE-CUR  
ACH

**Alberta**  
EDUCATION



This document was written primarily for:

Students	✓
Teachers	✓ Grade 6 Teachers
Administrators	✓
Parents	
General Audience	
Others	✓ Superintendents

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This bulletin contains general information about the Provincial Achievement Testing Program and information specific to the Grade 6 Mathematics Achievement Test. **This bulletin replaces all previous bulletins.**

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**September 1997**

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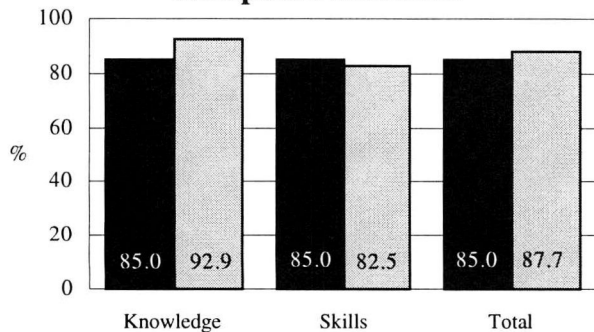
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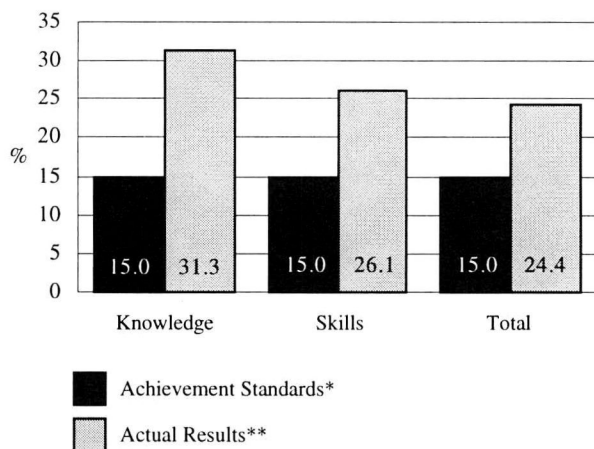
## Looking Back: Highlights of 1997

This information provides teachers, school administrators, and the public with an overview of the results for the June 1997 Grade 6 Mathematics provincial assessment. It complements the detailed school and jurisdiction reports.

### Acceptable Standard



### Standard of Excellence



\*the percentage of students in the province expected to meet the acceptable standard and the standard of excellence

\*\*the percentage of students in the province who met the standards (based on those who wrote)

### Who Wrote the Test?

All students registered in Grade 6 were expected to write the 1997 Mathematics Achievement Test. A total of 38 764 students completed the English version of the June 1997 test. In 1997, only a small proportion of students in Grade 6 did not write the test: 2.4% were absent and 2.8% were excused from writing by their superintendent.

### What Was the Test Like?

The test had 50 multiple-choice questions in five content areas: Numeration, Operations and Properties, Measurement, Geometry, and Data Management. The questions were classified in two reporting categories: Knowledge and Skills. Students recorded their responses to questions on a separate answer sheet.

### How Well Did Students Do?

As shown by the graphs, the number of students meeting the *acceptable standard* and the number of students meeting the *standard of excellence* on the total test was higher than expected. This is especially impressive given that a high proportion of Grade 6 students wrote the test.

In 14.6% of the schools, the percentage of students meeting the *acceptable standard* was significantly above expectations for the province. In 75.3% of the schools, the percentage of students meeting the *acceptable standard* was not significantly different from provincial expectations. In 10.1% of schools, the percentage of students meeting the *acceptable standard* was significantly below provincial expectations. Schools where fewer than five students wrote the Grade 6 test are not included in these school calculations.

The results presented here are based on scores achieved by all students writing in English. Results for students writing in French will be reported separately.

## ***Has Achievement Changed Since Last Year?***

A study of changes in achievement was conducted as part of the provincial assessment. Results indicate that math achievement in 1997 is higher than in 1996.

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### ***Commentary from Grade 6 Mathematics Achievement Test 1997***

No practice items from the Grade 6 Mathematics Achievement Test 1997 will be released in this bulletin (see page 10).

Commentary is provided to highlight the strengths and weaknesses of students meeting the *acceptable standard* and the *standard of excellence*.

#### **Acceptable Standard**

Overall, results show that students who met the *acceptable standard* but not the *standard of excellence* were able to solve one-step problems. Specifically, students meeting the *acceptable standard* could

- determine the operation needed to solve a straightforward problem and carry out the computation
- estimate sums and products
- interpret simple charts and graphs
- translate numbers from one form to another
- relate a net to the corresponding 3-D object
- recognize a reflection
- apply basic measurement skills to real-life situations

They had difficulty

- solving multistep problems
- ordering fractions and decimal numbers
- determining the perimeter of a polygon
- converting measurements from one unit to another

#### **Standard of Excellence**

Students meeting the *standard of excellence* had no difficulty with this assessment.

Students who meet the *standard of excellence* were more successful in solving multistep and novel problems than other students. Specifically, students meeting this standard could

- order integers
- apply operations in solving problems
- apply place value concepts
- identify a pattern to solve a problem
- interpret, analyze, and accurately apply information from charts and graphs
- carry out calculations with measurements

### ***Reporting the Results***

On August 22, 1997, each school jurisdiction received, electronically, a district report and individual school reports regarding their students' achievement, as well as guidelines for interpreting these results in relation to provincial standards.

To facilitate reflection on school programs, we expect that results will be shared with all school staff (not just teachers of grades 3, 6, and 9), as well as with parents and the community.

Two copies of an individual profile for each student will be sent to the school that the student will attend in September. We expect that the Parent Copy will be given to parents and the School Copy will remain with the student's record.

**The following Achievement tests are secured:**

**Grade 6 Mathematics, 1995  
ALL tests from 1996 and 1997**

# ***Looking Ahead: What is Upcoming for 1998***

## ***General Information***

### **Purpose**

The purpose of the Achievement Testing Program is to

- determine if students are learning what they are expected to learn
- report to Albertans how well students have achieved provincial standards at given points in their schooling
- assist schools, jurisdictions, and the province in monitoring and improving student learning

### **Enhance Student Learning**

Careful examination and interpretation of the results can help identify areas of relative strength and weakness in student achievement. Teachers and administrators can use this information in planning and delivering relevant and effective instruction in relation to broad, general learnings in the *Program of Studies*.

### **Enable Accountability**

Alberta Education and school jurisdiction personnel are responsible for ensuring that the highest quality education is provided to all students in the province.

Information about achievement is provided to

- schools and jurisdictions
- parents
- the public

so that they may know how well students in their schools are meeting local targets and provincial expectations.

### **Interpreting Results**

Achievement tests assess only part of what is to be learned. In addition, many factors contribute to student achievement. Personnel at the jurisdiction and school levels are in the best position to appropriately interpret, use, and communicate jurisdiction and school results in the local context.

The Provincial Achievement Testing Program provides teachers, parents, students, school administrators, Alberta Education, and the public with information about what students know and can do in relation to provincial standards. Group results are reported at school, district, and provincial levels to improve learning opportunities for students.

The assessments are administered in two subject areas at Grade 3—language arts and mathematics—and in four subject areas at Grades 6 and 9—language arts, mathematics, social studies, and science.

The assessments are based on provincial standards that reflect important learnings in the subject areas listed above. Classroom teachers from across the province are extensively involved in developing and field testing the assessment instruments.

### ***Administering the Tests***

Information about the nature of the provincial assessments as well as their administration to special needs students can be found in the *General Information Bulletin, Achievement Testing Program*, which is mailed each fall to all superintendents and principals.

## ***Schedule***

The schedule for administering achievement tests in the 1997–98 school year is mandated.

### **January 1998**

The January achievement tests for Grade 9 schools on a semester system must be administered according to the following schedule:

Wednesday, January 21	9:00 to 11:30 A.M.	Grade 9 English Language Arts Part A
Thursday, January 22	9:00 to 10:45 A.M.	Grade 9 Science
Friday, January 23	9:00 to 11:30 A.M.	Grade 9 Français/French Language Arts Partie A
Monday, January 26	9:00 to 10:45 A.M.	Grade 9 English Language Arts Part B
Tuesday, January 27	9:00 to 10:45 A.M.	Grade 9 Mathematics
Wednesday, January 28	9:00 to 10:45 A.M.	Grade 9 Social Studies
Thursday, January 29	9:00 to 10:45 A.M.	Grade 9 Français/French Language Arts Partie B

### **May 1998**

The written component of the language arts achievement tests for grades 3, 6, and 9 must be administered according to the following schedule:

Tuesday, May 26	9:00 to 10:30 A.M.	Grade 3 English Language Arts Part A
	9:00 to 11:30 A.M.	Grades 6 and 9 English Language Arts Part A
Thursday, May 28	9:00 to 11:30 A.M.	Grades 6 and 9 Français/French Language Arts Partie A

### **June 1998**

The machine-scorable component of achievement tests for grades 3, 6, and 9 must be administered according to the following schedule:

Monday, June 15	9:00 to 10:30 A.M.	Grade 3 English Language Arts Part B
	9:00 to 10:30 A.M.	Grade 6 English Language Arts Part B
Wednesday, June 17	9:00 to 10:30 A.M.	Grade 3 Mathematics
	9:00 to 10:30 A.M.	Grade 6 Mathematics
Thursday, June 18	9:00 to 10:30 A.M.	Grade 6 Social Studies
	9:00 to 10:45 A.M.	Grade 9 Français/French Language Arts Partie B
Friday, June 19	9:00 to 10:45 A.M.	Grade 9 Science
Monday, June 22	9:00 to 10:30 A.M.	Grade 6 Science
	9:00 to 10:45 A.M.	Grade 9 English Language Arts Part B
Tuesday, June 23	9:00 to 10:30 A.M.	Grade 6 Français/French Language Arts Partie B
	9:00 to 10:45 A.M.	Grade 9 Mathematics
Wednesday, June 24	9:00 to 10:45 A.M.	Grade 9 Social Studies

The tests that will be administered each year are:

### **Grade 3**

English Language Arts (*Part A: Writing*  
and *Part B: Reading*)

Mathematics (English and French forms)

### **Grade 6**

English Language Arts (*Part A: Writing*  
and *Part B: Reading*)

Français/French Language Arts  
(*Partie A: Production écrite* and  
*Partie B: Lecture*)

Mathematics (English and French forms)

Science (English and French forms)

Social Studies (English and French forms)

### **Grade 9**

English Language Arts (*Part A: Writing*  
and *Part B: Reading*)

Français/French Language Arts  
(*Partie A: Production écrite* and  
*Partie B: Lecture*)

Mathematics (English and French forms)

Science (English and French forms)

Social Studies (English and French forms)

## ***Students in French Programs***

All students in French programs must write English Language Arts, French Language Arts and French versions of other achievement tests if their language of instruction is french. Alberta Education will send a checklist to schools in January requesting an indication of how many English or French tests are required.

## ***Marking Achievement Tests Locally***

Teachers are able to mark the tests before returning them to Alberta Education. Teachers can use the results as part of an individual student's year-end assessment, as well as for planning instruction.

## ***Standards: Curriculum, Assessment, Achievement***

The move toward results-based curricula has re-emphasized the need for a clear delineation of standards and their purpose. All standards and all methods of setting standards require judgement.

The process of setting a standard can only be as good as the judgements that go into it. The standard will depend on whose judgements are involved in the process. In this sense, all standards are subjective. Yet once a standard has been set, the decisions based on it can be made objectively. Instead of a separate set of judgements for each test-taker, you will have the same set of judgements applied to all test-takers. Standards cannot be objectively determined, but they can be objectively applied.<sup>1</sup>

## ***Definitions***

The Achievement Testing Program is directly concerned with three different but related standards. These provincial standards are curriculum standards, assessment standards, and achievement standards. Local targets are also described in this section.

- **Curriculum Standards** are the expected student learnings sequenced into grade levels. They include broad statements of knowledge, skills, and attitude expectations against which student performance is judged. These standards are established in the process of curriculum development and are found in the *Program of Studies* document produced for each subject.
- **Assessment Standards** are the criteria adopted for judging actual student achievement relative to curriculum standards. They are ultimately expressed and applied to test scores. They are derived from answers to questions such as:

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<sup>1</sup> Passing Scores; Samuel A. Livingston, Michael J. Zieky; Educational Testing Service, 1982.



What scores must a student obtain or how many questions on a given test must a student answer correctly in order for his/her performance on the test to be judged as acceptable or excellent?

- **Achievement Standards** are judgements that specify what percentages of students are expected to achieve an acceptable and an excellent level of achievement in relation to each course of studies; i.e., to the relevant curriculum standards. They reflect community judgement about what is an appropriate expectation for students. It is important to point out that this judgement is not a prediction of the percentage of students who will actually achieve acceptable or excellent levels, but rather a specification of the percentage of students at a given grade or year in school who are *expected* to achieve the acceptable (85%) or excellent standard (15%). **The 85% of students expected to meet the acceptable standard includes those who meet the standard of excellence.** These standards apply to school, jurisdiction, and provincial performance.
- **Local targets** are goals set in schools/districts to focus plans for helping students learn what is expected by the provincial government. These local targets reflect the specific needs of students, the views of teachers, school administration, and the local community, and the resources available to provide learning opportunities for students.

## ***Confirming Standards***

Confirming standards is a process whereby judgements about students' performance on the assessment are made in relation to provincial standards. For more information on confirming standards procedures, refer to Appendix A of the *Achievement Testing Program Provincial Report, June 1993 Administration*. For information on the selection of teachers for participation in the confirming standards process, refer to the current *General Information Bulletin, Achievement Testing Program*.

## ***Purpose of Assessment Standards***

The provincial standards are the basis upon which we assess how well students have learned mathematics by the end of Grade 6. These standards reflect the essential learnings that all Alberta students are expected to achieve. Provincial standards are useful, therefore, for assessing Grade 6 students in all types of school programs—public, private, and home education. By comparing actual results with provincial standards, decisions can be made about whether achievement is, in fact, “good enough.”

## Description of the Mathematics Assessment Standards

The following statements describe what is expected of Grade 6 students who are meeting the *acceptable standard* or the *standard of excellence* on independent work at the end of the Grade 6 Mathematics program. The statements represent the standards against which student achievement will be measured.

Acceptable Standard	Standard of Excellence
<p>Students who meet the <i>acceptable standard</i> in Grade 6 Mathematics have a basic understanding of mathematical concepts and related procedural knowledge. They demonstrate their understanding in concrete, pictorial, and symbolic modes and are able to translate from one mode to another. For example, students meeting the <i>acceptable standard</i> know that the solution to the number sentence <math>42 \times 2 = \square</math> is 84 and can demonstrate their understanding in concrete and pictorial ways. They are able to write related number sentences and verify them using manipulatives and diagrams.</p> <p>To meet the <i>acceptable standard</i>, students reflect upon, explain, and defend their ideas, using objects, diagrams, everyday and mathematical terminology, and, when appropriate, technology. They understand mathematical questions presented with objects, diagrams, or symbols in everyday and school settings. Students meeting the <i>acceptable standard</i> derive meaning from problem-solving experiences in their world and build on a foundation of previous learning.</p> <p>Students meeting the <i>acceptable standard</i> perform the mathematical operations and procedures that are fundamental to mathematics in Grade 6 and apply what they know in solving routine problems in familiar settings. They describe the steps they used to solve a particular problem and defend their solution to the problem.</p> <p>Students meeting the <i>acceptable standard</i> have a positive attitude about mathematics and a sense of personal competence in using mathematics in their daily lives. They demonstrate confidence when using common mathematical procedures and when applying problem-solving strategies in familiar settings.</p>	<p>Students who meet the <i>standard of excellence</i> in Grade 6 Mathematics have a thorough understanding of mathematical concepts and related procedural knowledge. They consistently demonstrate their understanding in concrete, pictorial, and symbolic modes, and easily translate from one mode to another. They are able to create problem situations to illustrate concepts and to analyze and explain relationships among concepts. For example, students meeting the <i>standard of excellence</i> can write all number sentences related to <math>42 \times 2 = \square</math>, justify them using manipulatives and diagrams, and create problem situations to exemplify the relationship.</p> <p>To meet the <i>standard of excellence</i>, students assess, explain, and defend their ideas clearly, using objects, diagrams, and exact mathematical terminology. They understand mathematical questions presented with objects, diagrams, or symbols in both common and unusual settings. Students meeting the <i>standard of excellence</i> derive meaning from problem-solving experiences in familiar and unusual settings and build on a foundation of previous learning.</p> <p>Students meeting the <i>standard of excellence</i> perform the mathematical operations and procedures that are fundamental to mathematics in Grade 6 and apply what they know in solving and creating novel problems. They clearly describe the steps that they or other students used to solve a particular problem and can justify the solution as well as suggest alternative solutions and/or strategies.</p> <p>Students meeting the <i>standard of excellence</i> have a positive attitude toward mathematics and show confidence in performing mathematical tasks. They are self-motivated risk-takers who persevere when solving novel problems. They take initiative in trying new methods and are creative in their approach to problem solving.</p>

# ***Grade 6 Mathematics Assessment***

## ***General Description***

The test consists of 50 multiple-choice questions integrated in narrative themes. The test is designed to be completed in 60 minutes. However, additional time of up to 30 minutes may be provided to allow all students to finish.

The blueprint for the multiple-choice test is on the next page and is followed by practice questions that teachers can use with students to help them prepare for the test.

Students will record answers to questions on the answer sheet provided (see page 20 for practice answer sheet).

Students will require HB pencils, rulers, and erasers. They may also need scrap paper.

Students may use manipulative materials and calculators when completing the test.

## ***Reporting Categories Indicators***

The following points briefly highlight the learnings for each reporting category.

### ***Knowledge***

- recalls facts, concepts, terminology
- knows number facts

- recognizes place value
- knows the procedure for algorithms and computations
- knows the procedure for constructions and measurements
- knows how to use calculators/computers
- knows mental computation, estimation strategies
- shows basic mathematical concepts in concrete, pictorial, and /or symbolic modes

### ***Skills***

- applies a mathematical concept in a variety of familiar situations
- creates new problem situations that exemplify a concept
- judges reasonableness of answers
- justifies answers
- communicates why and when certain strategies are appropriate
- demonstrates relationships among numbers, operations, number forms, and modes of representation
- demonstrates relationships among geometric forms
- applies mathematical knowledge to solve problems
- uses a variety of problem-solving strategies
- applies mathematical concepts in new situations



## ***Blueprint***

The blueprint for mathematics shows the reporting categories under which questions are classified. The number of questions in each category is approximate.

<b>General Outcomes*</b>	<b>Knowledge</b>	<b>Skills</b>	<b>Total Number of Questions</b>
<b>Number</b> <ul style="list-style-type: none"><li>• Develop a number sense for decimals and common fractions, explore integers, and show number sense for whole numbers</li><li>• Apply arithmetic operations on whole numbers and decimals in solving problems</li></ul>	<b>6</b>	<b>11</b>	<b>17(34%)</b>
<b>Patterns and Relations</b> <ul style="list-style-type: none"><li>• Use relationships to summarize, generalize and extend patterns, including those found in music and art</li><li>• Use informal and concrete representations of equality and operations on equality to solve problems</li></ul>	<b>4</b>	<b>9</b>	<b>13(26%)</b>
<b>Shape and Space</b> <ul style="list-style-type: none"><li>• Solve problems involving perimeter, area, surface area, volume and angle measurement</li><li>• Use visualization and symmetry to solve problems involving classification and sketching</li><li>• Create patterns and designs that incorporate symmetry, tessellations, translations and reflections</li></ul>	<b>4</b>	<b>8</b>	<b>12(24%)</b>
<b>Statistics and Probability</b> <ul style="list-style-type: none"><li>• Develop and implement a plan for the collection, display and analysis of data gathered from appropriate samples</li><li>• Use numbers to communicate the probability of single events from experiments and models</li></ul>	<b>3</b>	<b>5</b>	<b>8(16%)</b>
<b>Total Number of Questions</b>	<b>17(34%)</b>	<b>33(66%)</b>	<b>50(100%)</b>

*\*From the Alberta Program of Studies for K-9 Mathematics, June 1996*

Standards for the 1998 Grade 6 Mathematics Achievement Test will be reviewed to ensure they reflect the dimensions of the Alberta Program of Studies, June 1996.

## ***Practice Questions***

The following practice questions may be used to help prepare students for the Mathematics 6 Achievement Test. The key and descriptors for the practice questions are on page 21.

Familiarize your students with the format of the multiple-choice component of the test and the kinds of questions that will appear on it by having them work through the practice questions. A practice answer sheet is provided on page 20.

The practice questions on pages 11 to 19 appeared on the June 1996 achievement test (all other questions on this test are secured). These released questions, along with questions from previous bulletins, can be used to prepare students for the current achievement test.

The 1998 Grade 6 Mathematics Achievement Test for francophone and French immersion students will be based on the 1994 Interim program. It is therefore imperative that both the French translation and the English form of the 1997 Grade 6 Mathematics Achievement Test be secured. No practice items will be released in this bulletin, and no items from the 1997 achievement test may be used by teachers with their students during the 1997–98 school year. Copies of the 1997 test kept for interpreting results should be secured by the principal and used for this purpose only.

This collection of questions does not represent the test emphasis as presented in the blueprint.

Ms. Thompson's Grade 6 class at Prairieview School has planned a year-end field trip. The 25 students, Ms. Thompson, and 4 supervisors are looking forward to visiting mountain park vacation spots on their trip.



Now, join the class and their supervisors on the trip. Help them solve the real-life problems they experience.

### Getting Ready

The students and their teacher, Ms. Thompson, did all the planning and prepared equipment for the trip.

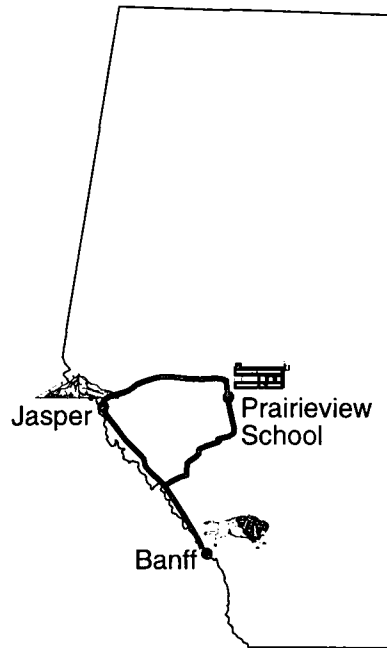
The first three questions are about getting ready.

1. Ms. Thompson suggested that every student bring \$55 for spending money. Allison made \$12 mowing lawns and \$6 babysitting. She also received \$10 for her birthday. How much more money did Allison need?
  - A. \$27
  - B. \$33
  - C. \$43
  - D. \$47



Use the following information to answer questions 2 and 3.

The class prepared a map to show the distances for the trip.



Route	Distance
Prairieview to Jasper	309 km
Jasper to Banff	287 km
Banff to Prairieview	367 km

2. According to the chart, how much farther is it from Prairieview School to Banff than from Prairieview School to Jasper?
- A. 52 km  
B. 58 km  
C. 62 km  
D. 66 km
3. The class will be travelling from Prairieview School to Jasper and then to Banff. They will go directly home from Banff. **About** how far will they travel on their trip?
- A. 1000 km  
B. 900 km  
C. 800 km  
D. 700 km

## The Trip

The students enjoyed their trip in the mountains. The next fourteen questions are about the trip.

4. Judy stacked 12 identical juice cans on top of one another. The height measured 177.6 cm. How many centimetres high is each juice can?
- A. 17.6 cm
  - B. 14.8 cm
  - C. 9.8 cm
  - D. 8.6 cm
5. At a campfire talk in the evening, the park ranger showed the class a picture of two bear cubs. He said that, together, the bear cubs have a mass of 135 kg. If one cub's mass is 5 kg more than the other cub's mass, what is the mass of each cub?
- A. 130 kg, 5 kg
  - B. 65 kg, 70 kg
  - C. 67 kg, 68 kg
  - D. 65 kg, 60 kg
6. The park ranger was concerned about the large number of elk hit by vehicles in the park each year. He said that an average of four elk are killed each month. At this rate, how many elk out of 120 would survive after eight months?
- A. 124
  - B. 95
  - C. 88
  - D. 32

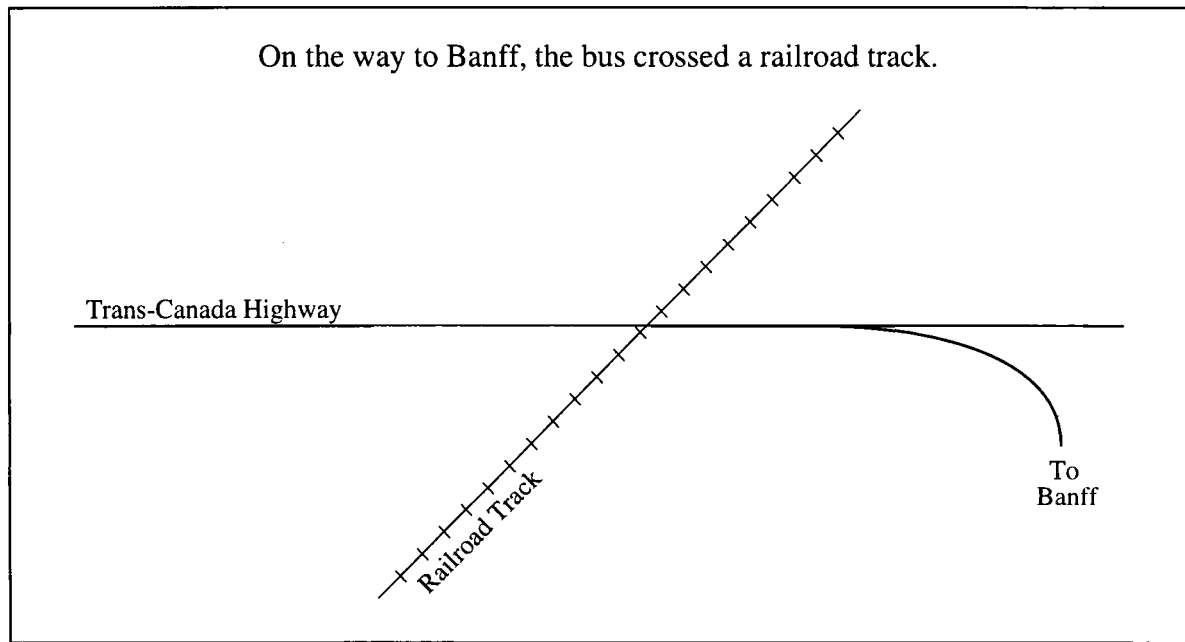
Use the following chart to answer question 7.

NUMBER OF ANIMALS OBSERVED			
Student	Birds	Fur-Bearing Animals	Total
Sandy	47	69	116
John	65	38	103
Sheila	76	41	117

7. The park ranger asked Sheila a question. Sheila looked at the chart and answered the question using the number sentence  $65 - 47 = 18$ . What question was Sheila asked?
- A. How many more fur-bearing animals did you see than John saw?
  - B. How many more fur-bearing animals did Sandy see than John saw?
  - C. How many more birds did John see than Sandy saw?
  - D. How many more birds did you see than Sandy saw?



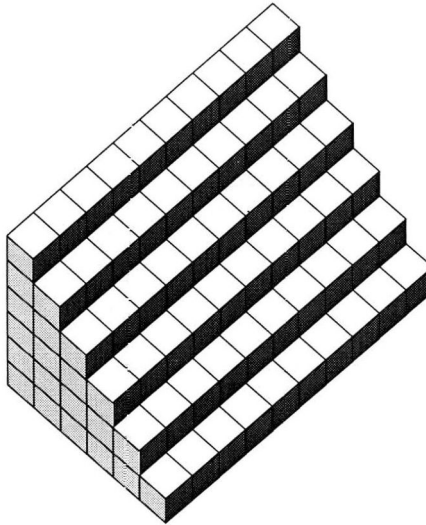
Use the following diagram to answer question 8.



8. On the map, the Trans-Canada Highway and the railroad track are
- A. vertical
  - B. parallel
  - C. intersecting
  - D. perpendicular
- \_\_\_\_\_
9. Some students had pizza for lunch in Banff. Michael ate  $\frac{1}{2}$  of his pizza, Cliff ate  $\frac{2}{5}$  of his pizza, David ate  $\frac{3}{10}$  of his, and Patricia ate  $\frac{3}{5}$  of hers. Who ate the greatest portion of pizza?
- A. Michael
  - B. Cliff
  - C. David
  - D. Patricia

Use the following information to answer question 10.

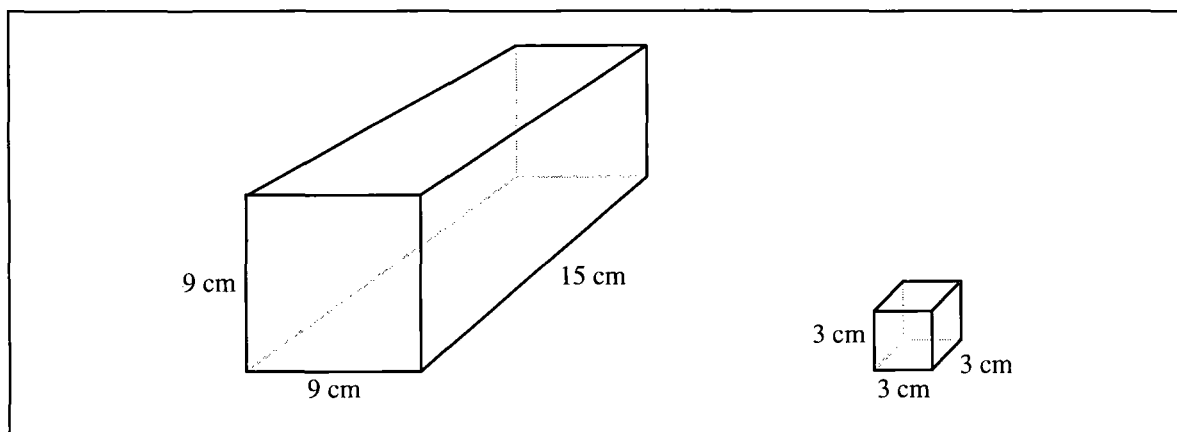
While waiting for a museum tour to start, some of the students played on the stairs of a building in Banff. From **above**, the stairs look like this:



10. If the stairs were made by stacking layers of blocks, how many blocks were used in these stairs?
- A. 60  
B. 70  
C. 120  
D. 210
- 
11. All 25 students went inside the museum. The tickets they bought were numbered beginning with 211. People with even-numbered tickets were given a free poster. How many students received a poster?
- A. 11  
B. 12  
C. 13  
D. 25

12. Jamie had a lot of change. If she had 13 dimes, 6 nickels, 24 pennies, 9 quarters, and 6 loonies, what was the total value of the coins?
- A. \$9.09  
B. \$10.09  
C. \$10.90  
D. \$19.90

*Use the following diagram to answer question 13.*



13. Stacy bought a block of fudge  $9\text{ cm} \times 9\text{ cm} \times 15\text{ cm}$  and cut it into cubes  $3\text{ cm} \times 3\text{ cm} \times 3\text{ cm}$ . How many cubes of this size did she have?
- A. 15  
B. 27  
C. 45  
D. 81



14. After leaving Banff, the bus stopped at the Buffalo Paddock. Park rangers were tagging and weighing the buffalo. The mass of one of the buffalo in the paddock is 639.75 kg. The digit in the tens place is
- A. 3
  - B. 5
  - C. 7
  - D. 8
15. The masses of five of the buffalo are 600 kg, 580 kg, 540 kg, 660 kg, and 420 kg. What is the average mass of these five buffalo?
- A. 420 kg
  - B. 560 kg
  - C. 595 kg
  - D. 610 kg

Use the following information to answer questions 16 and 17.

During the drive back to Prairieview, Ms. Thompson asked her class which part of the trip was their favourite. She made the following tally sheet:

Jasper Tramway	Maligne Canyon	Horseshoe Lake	Banff Park

16. Which was the second least popular place?
- A. Jasper Tramway
  - B. Maligne Canyon
  - C. Horseshoe Lake
  - D. Banff Park
17. If all 25 students were polled, how many did **not** vote for a place listed on the tally sheet?
- A. 2
  - B. 3
  - C. 5
  - D. 8

***Practice Answer Sheet for Multiple-Choice Questions***

MULTIPLE CHOICE				
1	<input type="radio"/> A	<input type="radio"/> B	<input type="radio"/> C	<input type="radio"/> D
2	<input type="radio"/> A	<input type="radio"/> B	<input type="radio"/> C	<input type="radio"/> D
3	<input type="radio"/> A	<input type="radio"/> B	<input type="radio"/> C	<input type="radio"/> D
4	<input type="radio"/> A	<input type="radio"/> B	<input type="radio"/> C	<input type="radio"/> D
5	<input type="radio"/> A	<input type="radio"/> B	<input type="radio"/> C	<input type="radio"/> D
6	<input type="radio"/> A	<input type="radio"/> B	<input type="radio"/> C	<input type="radio"/> D
7	<input type="radio"/> A	<input type="radio"/> B	<input type="radio"/> C	<input type="radio"/> D
8	<input type="radio"/> A	<input type="radio"/> B	<input type="radio"/> C	<input type="radio"/> D
9	<input type="radio"/> A	<input type="radio"/> B	<input type="radio"/> C	<input type="radio"/> D
10	<input type="radio"/> A	<input type="radio"/> B	<input type="radio"/> C	<input type="radio"/> D
11	<input type="radio"/> A	<input type="radio"/> B	<input type="radio"/> C	<input type="radio"/> D
12	<input type="radio"/> A	<input type="radio"/> B	<input type="radio"/> C	<input type="radio"/> D
13	<input type="radio"/> A	<input type="radio"/> B	<input type="radio"/> C	<input type="radio"/> D
14	<input type="radio"/> A	<input type="radio"/> B	<input type="radio"/> C	<input type="radio"/> D
15	<input type="radio"/> A	<input type="radio"/> B	<input type="radio"/> C	<input type="radio"/> D
16	<input type="radio"/> A	<input type="radio"/> B	<input type="radio"/> C	<input type="radio"/> D
17	<input type="radio"/> A	<input type="radio"/> B	<input type="radio"/> C	<input type="radio"/> D

## Key and Descriptors for Practice Questions

### Multiple-Choice Questions

Item	Key	Program Strand*	Reporting Category**	Curriculum Standard
1	A	OP	S	Determine appropriate operations and compute
2	B	OP	K	Subtract 3-digit numbers
3	A	OP	S	Estimate sum of three 3-digit numbers
4	B	OP	K	Divide a decimal number by a 2-digit divisor
5	B	OP	S	Determine a strategy to solve a complex problem
6	C	OP	S	Apply understanding of average and solve a multistep problem
7	C	D	S	Interpret a chart to determine the meaning of a number sentence
8	C	G	K	Classify lines as intersecting
9	D	N	S	Order fractions with different denominators and find largest
10	D	N	S	Visualize the number of blocks in a solid 3-D object
11	B	N	S	Apply understanding of odd and even numbers to solve a novel problem
12	B	M	S	Express value of a collection of coins in dollar form
13	C	M	S	Determine a strategy to partition the volume of a prism
14	A	N	K	Identify the digit with the given place value
15	B	OP	S	Determine average
16	A	D	S	Interpret a tally chart
17	A	D	S	Infer meaning of omissions on the tally chart

\* G—Geometry; M—Measurement; N—Numeration; OP—Operations and Properties; D—Data Management

\*\* K—Knowledge; S—Skills

## ***Preparing Students for the Test***

The best way to prepare students for the achievement tests is to teach the curriculum well and to ensure that children know what is expected. Many of the skills and attitudes that support test writing are in fact good skills and strategies for approaching all kinds of learning tasks.

Have students do the practice questions included in this bulletin. Then, have students share strategies they used to answer the questions.

You are also encouraged to share the following information with your students to help them prepare for the Grade 6 Mathematics Achievement Test.

### ***Tips on Taking Multiple-Choice Tests***

- Before you begin, find out:
  - How much time do you have?
  - Can you use a calculator, tables, diagrams, manipulatives, etc.?
- Ask questions if you are unsure of anything.
- Skim through the whole test before beginning. Find out how many questions there are and plan your time accordingly.
- Answer the easier questions first and then go back to the harder ones.
- Do not spend too much time on any one question. Make a note (\*or ?) beside the question and go back to it if you have time.
- Read each question carefully, underline key words, and try to think of an answer before looking at the choices.

- Read all the choices and see which best fits the answer.
- When you are not sure which answer is correct, cross out any choices that are wrong, and then pick the choice that is best.
- Guess if you don't know the right answer. Answer all questions—there is no penalty for guessing.
- If time permits, recheck your answers.
- Double check to make sure you have answered everything before handing in the test.
- Notice that the questions on the mathematics test are organized in narrative themes.
- Read the information given using the strategy that works best for you. You should either
  - look at all the information and think carefully about it before you try to answer the questions **OR**
  - read the questions first and then look at the information, remembering the questions you need to answer.
- Make sure you look at all forms of the information given. Information may be given in words, charts, pictures, graphs, and maps.
- When you are given information for more than one question, remember to go back to the information before answering each question.
- Check your work when you calculate an answer, even when your answer is one of the choices.

For further suggestions, see *Teaching Students with Learning Disabilities*, Alberta Education, Special Education Branch, pages LD 122 to 124.

## ***Interim Policy: Use of Calculators on Alberta Education Achievement Tests***

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September 1997

Those Grade 6 students for whom the four-function calculator is a familiar classroom tool **are encouraged, but not required**, to use a calculator when writing the Grade 6 Mathematics Achievement Test.



## ***Alberta Education Contacts***

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